

REMARKS/ARGUMENTS

In view of the Examiner's comment in response to applicants' previously presented arguments, the herein disclosed subject matter has been presented in the form of method claims.

According to new independent claims 18, 24, 28, and 34, the method uses, as a material of a temperature compensation member, a powder having a glass phase. Such a powder is, for example, crystallizable glass powder, partially-crystallized glass powder, amorphous glass powder, and others. This enables the bending strength to be improved because the powder of the glass phase acts as an adhesive material and strengthens uniting between particles of the powder. Improvement of the bending strength is described on page 9, second paragraph. This fact is also clear from Table 1 on page 19 of specification. More particularly, compared to Example 1 where sintering is carried out with using only β -eucryptite crystals powder, the bending strength is higher in each of Examples 3, 5, and 16 where sintering is carried out with a mixture of β -eucryptite crystals powder and crystallizable glass powder having the glass phase. The bending strength of Example 10 is higher than that of Example 2 because Example 10 carries out sintering with a mixture using the crystallizable glass powder having the glass phase. Similarly, the bending strength of

Examples 9 and 12 is higher than that of Example 1 because each of Examples 9 and 12 carries out sintering with a mixture of the crystal powder and the additive.

Furthermore, the temperature compensation member manufactured by the method contains crystals exhibiting anisotropy in coefficient of thermal expansion. In this condition, it is assumed that a large number of micro-cracks exist between the crystals in the sintered body. However, the temperature compensation member manufactured by the method can be made to have a high mechanical strength (bending strength). This is because the sintering is carried out with a mixture of the crystallizable glass powder and/or the partially-crystallized glass powder or the additive.

Beall et al ('352), cited, discloses a method of manufacturing a temperature compensation member of a crystallized glass made by crystallizing a mother glass. Such a crystallized glass is generally made by manufacturing steps of melting an original to produce a melted glass, of forming the melted glass into a predetermined shape to produce a formed glass, and of heat-treating the formed glass to deposit crystals therein.

As described in the specification, page 7, lines 18-24, the melt of the mother glass is extremely highly devitrifiable. In addition, in every stage of the manufacturing steps, coarse crystals are often deposited to cause a large difference in expansion in the glass. This

readily results in surface cracks during forming or machining. Therefore, it is impossible to produce a product complicated in shape as well as to perform production at a yield of an industrial level.

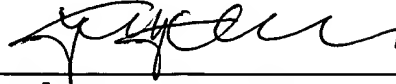
Furthermore, Beall et al do not need sintering and, therefore, do not disclose or suggest to sinter for strengthening bending strength and to use for sintering a powder having a glass phase.

Fleming et al ('743), also cited, disclose a method of manufacturing a temperature compensation member. In their method, the temperature compensation member is made by sintering a mixture of a crystal powder of ZrO_2 or HfO_2 , another crystal powder of WO_3 or V_2O_5 , and others. However, only a crystal powder is used in the sintering. It is not disclosed or suggested to use a powder having a glass phase.

In view of the above, the present method claims are respectfully submitted clearly to be patentable over the art of record. Please charge the official fee for one independent claim over 3 (\$200.00) and 3 claims over 20 (\$150.00) for a total of \$350.00 to Deposit Account No. 03-2468.

A sincere effort having been made to overcome all grounds of rejection, favorable reconsideration and allowance of claims 18-40 are respectfully solicited.

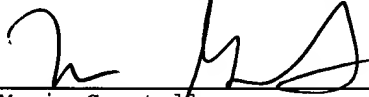
Respectfully submitted,
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